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A Larval Gall-Making Species of the Genus *Blastodacna* WOCKE (Lepidoptera, Momphidae) in Korea

Kyu Tek PARK

Department of Plant Protection, College of Agriculture,
Kangweon National University, Chuncheon, Korea

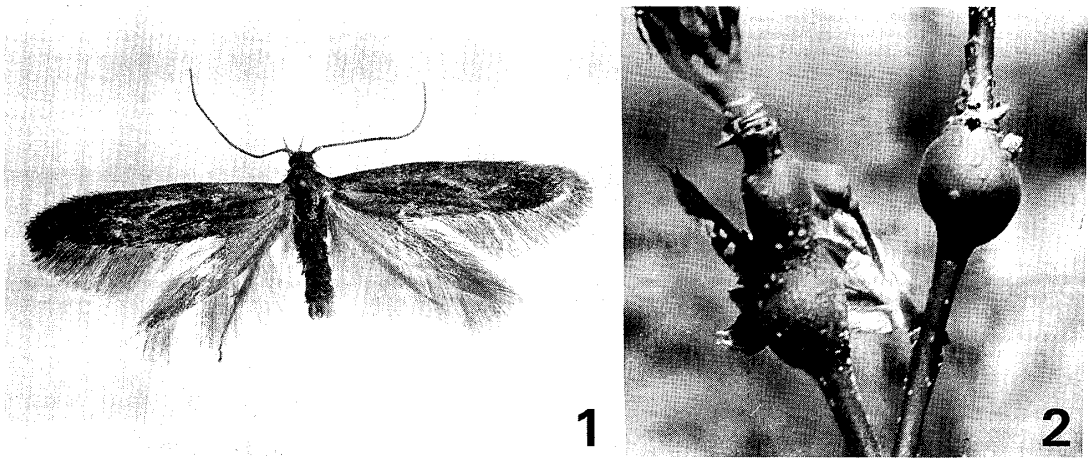
The genus *Blastodacna* WOCKE comprises about twelve species which are mostly distributed in the Palaearctic region and N. America. In the Far East region, no species of this group has been reported except *Sinitinea pyrigalla* and an unnamed species described by YANG (1977) from China. The venation and genitalia of *pyrigalla* YANG are characteristic of the genus *Blastodacna* WOCKE and there can be no doubt that *Sinitinea* YANG, 1977, syn. nov. is a junior synonym of *Blantodacna* WOCKE, 1876

In writing this paper I wish to express my sincere appreciation to Dr. J. D. BRADLEY, Commonwealth Institute of Entomology, London, for his help with the investigation of the species and critically reading the manuscript, and special thanks are due to Dr. Chin-Kun YANG, Beijing Agricultural University, Beijing, China, for kindly writing to Dr. J. D. BRADLEY in London and confirming the identification of the species.

Blastodacna pyrigalla (YANG), **comb. nov.**

Sinitinea pyrigalla YANG, 1977, Moths of North China, **1** : 262－263.

Wingspan : 15－19 mm. Head whitish grey suffused and diffusely irrorated with pale brown ; labial palpus white, basal and second segments heavily irrorate with blackish-tipped brown scales exteriorly and ventrally, second segment with a usually



Figs. 1－2. *Blastodacna pyrigalla* (YANG). 1. Adult ; 2. Larval galls in pear.

complete blackish apical annulus, terminal segment sparsely flecked or irrorate with dark brown. Thorax and tegula whitish grey heavily overlaid with blackish brown excepting metathoracic crest and tips of tegulae which are paler and somewhat coarsely irrorate with brown. Antenna including scape grey, flagellum with weak indication of brownish annulus, most pronounced in female.

Forewing ground colour white heavily overlaid and suffused with grey and grey-brown, many scales blackish-tipped producing a diffuse irrorate effect; a slightly oblique blackish-fuscous discocellular streak narrowly but distinctly edged above with white, this white edging continuing distally as a thin line curving upwards to join end-on a somewhat thicker subapical blackish streak directed towards apex; a moderately conspicuous tuft of raised blackish scales in plical fold; a second tuft of comparatively pale scales at end of cell above tornus in tornal area. Cilia grey, pale yellow basally along termen, a few blackish tipped scales around apex and a weak blackish post-medial line from apex to about one-third of termen. Venation with R_1 from middle of cell, R_4 and R_5 stalked, R_5 to costa, M_2 and M_3 connate, CuA_1 and M_3 approximated at base and arising from angle, Cu_2 obsolescent, 1A and 2A forming a basal fork.

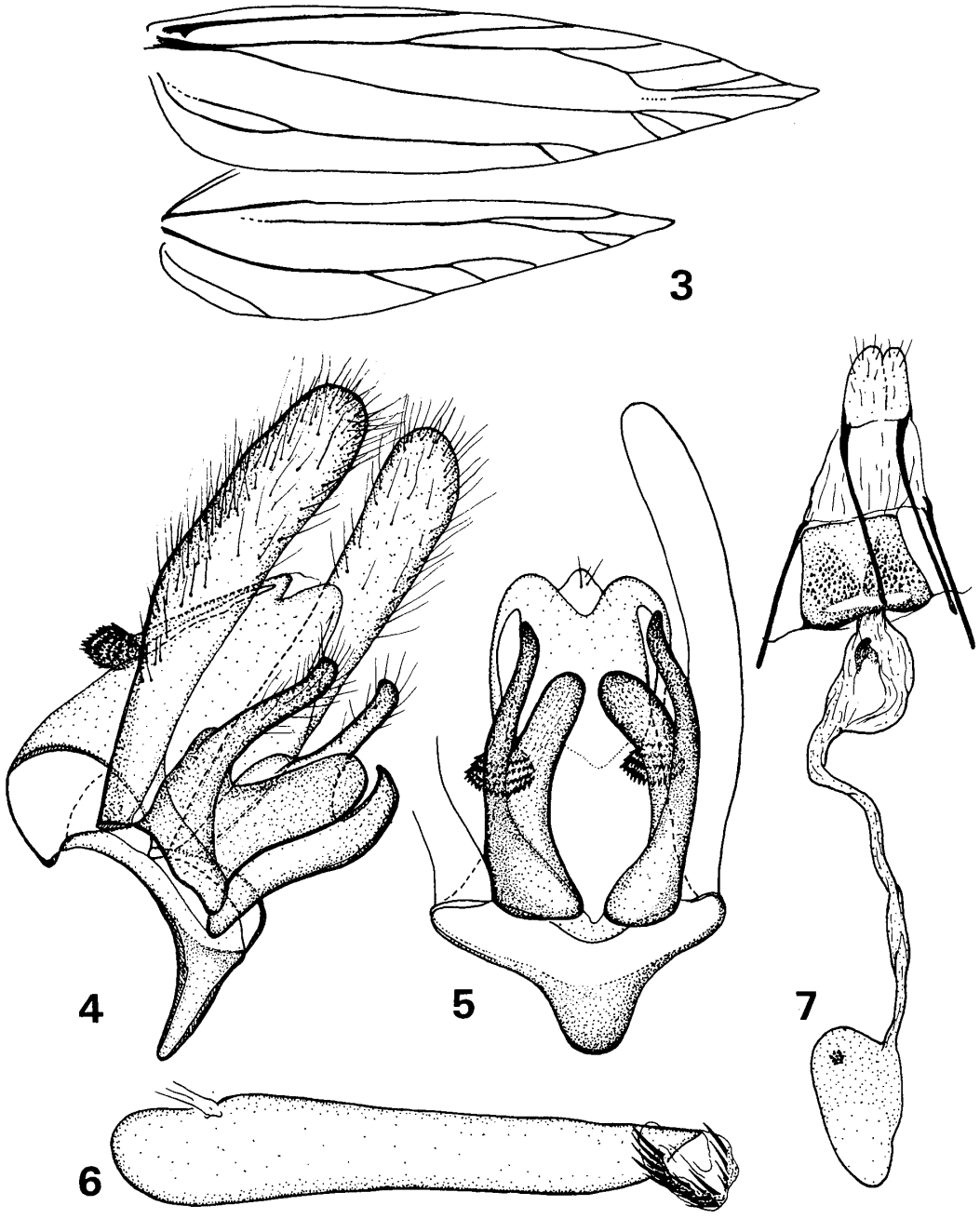
Hindwing grey, cilia concolorous. Venation with $Sc+R_1$ reaching costa before middle, M_1 and M_2 with a long stalk, M_3 and CuA_1 connate, CuA_1 and CuA_2 nearly parallel, CuA_2 arising from nearly half of the cell.

Abdomen grey. Fore and middle legs grey, paler below; tarsi usually darker dorsally and with cream-white annuli apically.

Male genitalia (Figs. 4–6). Gnathos arms shorter than half of valva length, the end-pads relatively large, rounded, with several rows of teeth. Valva moderately broad, elongate, narrower basally, gradually dilated towards middle, apex ovate. Anellar arms strong, bilobed, the upper lobe nearly straight, more or less cylindrical, slightly constricted before apex, sparsely setose, the lower lobe flattened, relatively broad, curved inwards, tapering only slightly towards rounded apex. Aedeagus hardly curved, comparatively narrow apically, gradually widening towards base, without a distinct basal bulb; a dense patch of 12–15 spine-like cornuti situated near tip.

Female genitalia (Fig. 7). Anterior margin of 8th sternite strongly sclerotized. Ostium narrow, opening into greately dilated membraneous antrum containing a small, heavily sclerotized sclerite. Ductus bursae narrow, membraneous; corpus bursae broadly ovate, with a small, scobinate plate-like signum.

Material examined. 4 ♂♂, 3 ♀♀, Suweon, Gyunggi Prov., 25–30. III. 1976 (K. T. PARK), slide no. 820, male; 2 ♂♂, Suweon, 3. IV. 1976 (K. T. PARK); 1 ♀, Suweon, 26. IV. 1978 (K. T. PARK); 2 ♂♂, 2 ♀♀, Suweon, 13. IV. 1982 (S. W. LEE & K. T. PARK), reared from larvae making galls in pear; 1 ♂, 3 ♀♀, Gwangju, Gyunggi Prov., 12. XII. 1980 (K. R. CHOI), slide no. 1314, female, reared from larvae making galls in pear; 1 ?, Yesan, Chungnam Prov., 30. III. 1980 (C. G. YOO), reared from larvae making galls in peach; 2 ?, Jeonju, Jeonbug Prov., 27. XI. 1979 (C. G. YOO), reared from larvae making galls in persimon; 7 ♂♂, 8 ♀♀, Haenam, Jeonnam Prov., 28–29. XI. 1979 (C. G. YOO), slide no. 1298, reared from larvae making galls in pear; 1 ♂, labelled only "21. IV.



Figs. 3－7. *Blastodacna pyrigalla* (YANG). 3. Wing venation; 4. Male genitalia in lateral view; 5. *Ditto* in ventral view; 6. Aedeagus; 7. Female genitalia.

1917, Suweon" and a specimen without abdomen, labelled "early, X. 1914, Suweon, Korea", which were determined as *Metzneria paucipunctella* B. by MATSUMURA, are deposited in Matsumura's collection, Hokkaido University.

Bionomics. The larvae of this species make galls in pear, *Pyrus serotina*, peach, *Prunus persica* and persimon, *Diospyros kaki*. The galls are formed in the new wood of twigs and appear as elongate swellings about 10－15 mm long and 12－18 mm in diameter. The larvae overwinter in the galls and pupate from the end of March to

middle of April. The adults emerge through a rounded hole at one end of the gall, the hole being made in September－October by the fully grown larva. Oviposition is carried out around the base of buds. After hatching, the young larvae move to a new twig and then bore into the stem. The moth has one generation a year in Korea. Under natural conditions adults are on the wing from the early to end of April, but galls collected and kept under the laboratory condition produced moths from October to December.

Remarks. The present species was previously reported under the name of *Metzneria* sp. with its brief life-history by NAKAYAMA and OKAMOTO (1940) in Korea. Recently I and J. D. BRADLEY investigated the species together, and then sent Korean specimens of both sexes to Dr. YANG of Beijing, China for the comparison with the type specimen of *Sinitinea pyrigalla* YANG, which was also previously known as *Metzneria* sp. in China. From the result of his examination, it was confirmed that both the species are conspecific. As mentioned in the introduction, it is no doubt that *pyrigalla* YANG is transferred to the genus *Blastodacna* on account of the wing venation and genitalic characters.

Blastodacna pyrigalla (YANG) is closely related to *B. libanotica* DIAKONOFF, which also makes galls in pear twigs and is known from Syria, Lebanon and Turkey. Comparison of the material by J. D. BRADLEY showed the two species to be very similar in superficial and genitalic characters. Nevertheless, for the present it seems best to treat them as separate species; further study with more information and additional materials will be needed to solve the complexity satisfactorily.

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摘　　要

韓国において虫癭を形成する *Blastodacna* 属（鱗翅目，Momphidae*)の１種（朴奎澤）

Blastodacna 属は全北区から約 12 種が知られているが，1977 年に中国から *Sinitinea pyrigalla* YANG の名で記載された１種と未同定の１種を除いて，極東地域からは記録されていなかった．著者の研究の結果，

従来韓国から *Metzneria* sp. として知られていた種は *S. pyrigalla* YANG, 1977 と同一種であり，本種はまた翅脈や交尾器の形態から，疑いなく *Blastodacna* 属に移されることが明らかになった．したがって，本種をタイプとして設立された *Sinitinea* YANG, 1977 は *Blastodacna* WOCKE, 1876 のシノニムとなる．

本論文においてはこの *Blastodacna pyrigalla* (YANG) (comb. nov.)を再記載し，生態を記述した．本種の幼虫はナシ，モモおよびカキの新枝に長さ 10－15 mm，直径 12－18 mm の虫瘿を形成する．年 1 世代で，寄主の芽付近に産下された卵から孵化した幼虫は，新しく伸長した枝に穿孔して虫瘿を作る．越冬は幼虫態，翌早春虫瘿の中で蛹化して 4 月に成虫が羽化する．

[*Momphidae はカザリバガ科 Cosmopterigidae の 1 亜科または独立の科として扱われているが，日本からは所属する種類が記録されていないため和名はない．]